

# COLUMBIA UNIVERSITY

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December 26, 2001

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Jeffrey Simmen  
Technical Representative  
Office of Naval Research  
Ballston Centre Tower One  
800 North Quincy Street  
Arlington, VA 22217-5660

Re: Award #N00014-01-M-0074 Final Report

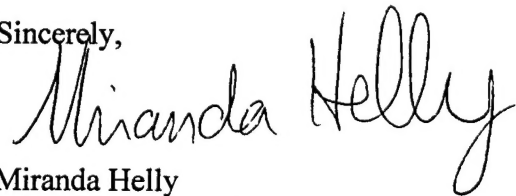
Mr. Simmen:

We enclose two (2) copies of the final report for the above referenced award.

If you have any questions, please feel free to contact me at (212) 854-6851

Thank you for your support.

Sincerely,



Miranda Helly  
Assistant Projects Officer

Enclosure

cc: Office of Naval Research Regional Office Boston  
Office of Naval Research ONR 00CC  
Defense Technical Information Center  
Naval Research Laboratory



*Lamont-Doherty  
Earth Observatory  
of Columbia University*

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**FINAL REPORT - Grant N00014-01-M-0074**

XBP Systems

R. D. Stoll

Professor Emeritus and Special Research Scientist  
Lamont-Doherty Earth Observatory of Columbia University

December 1, 2001

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## **FINAL REPORT - Grant N00014-01-M-0074**

### **XBP Systems**

**R. D. Stoll**

**Professor Emeritus and Special Research Scientist  
Lamont-Doherty Earth Observatory of Columbia University**

#### **Abstract:**

XBP is an expendable sea bed penetrometer that may be launched from a moving ship. The deceleration of the probe is measured as it impacts the sea floor and the resulting signal is interpreted to obtain certain geoacoustic and geotechnical properties of the bottom. The system was developed by Lamont-Doherty Earth Observatory and NATO, Saclant Undersea Research Center, LaSpezia, Italy. This Grant covers the cost of supplying the Naval Oceanographic Office, Stennis Space Center, with eight (8) XBP systems.

#### **Work Completed under the Grant:**

Eight (8) XBP systems were supplied to the Naval Oceanographic Office, Stennis Space Center. Each system was composed of the following components:

- IOTech Daqbook Model 216 PC-Based Data Acquisition System
- Custom Electronics Interface Card to drive and receive data from the XBP
- User-friendly software (DOS version) to receive and interpret data from the XBP
- User's Manual for XBP System

The development and use of the XBP system is completely described in the User's Manual and in an article in Sea Technology <sup>1</sup>.

#### **Reference:**

1. Stoll, R. D. and T. Akal (1999) "XBP - Tool for Rapid Assessment of Seabed Sediment Properties," Sea Technology, 40, No. 2, 47-51.